

(12) **United States Patent**
Sato et al.

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(54) **SLIDE PART AND SURFACE PROCESSING METHODS OF THE SAME**

USPC 428/141
See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1062 days.

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(52) **U.S. Cl.**

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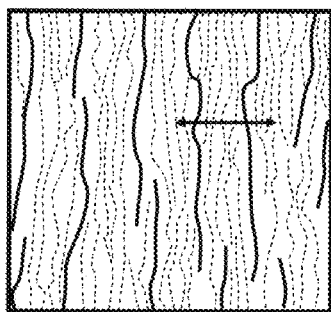
(57) **ABSTRACT**

A slide part has a surface structure in which there are at least two periodic structures among a first periodic structure with a period of 10 nm to 100 nm inclusive and a depth of 5 nm to 50 nm inclusive, a second periodic structure with a period of 100 nm to 1000 nm inclusive and a depth of 20 nm to 500 nm inclusive, and a third periodic structure with a period of 1000 nm to 10000 nm inclusive and a depth of 100 nm to 3000 nm inclusive, in which one of the at least two periodic structures is formed on the other periodic structure.

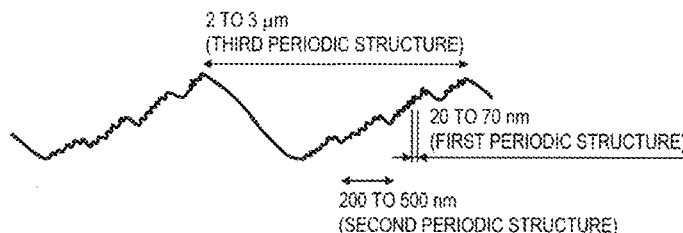
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16 Claims, 12 Drawing Sheets



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